







## LINE AND ITS ACTION.

By Thomas J. Edge, Secretary of the State Board of Agriculture, read before the Adams County Farmers Institute.

The results which follow the application of lime to the soil may be attributed to one or more of the following causes: First—To its action upon the vegetable matter already present in the soil in the form of decaying roots, grass, barnyard manure or other sources. Second—To its action upon the mineral elements of the soil. Third—To its mechanical effect on the soil. Fourth—To its action as a manure.

It is an undoubted fact that quick lime mixed with vegetable material in the presence of the air alone tends to indefinitely preserve it; when mixed with the same substance in the presence of air and moisture, this preservative effect is but little diminished, but when a third element in the form of common soil is introduced into the mixture the result is entirely changed and instead of preserving the material and preventing decay, we find that the vegetable matter quickly decays and is resolved into plant food.

As a proof of this, my dry lime with chips from the woodpile and they are preserved for an indefinite time; make the lime into the form of whitewash and the preservative effect is rather increased than diminished; mix the lime and chips with garden soil and they will rapidly decay.

Lime acts upon the mineral elements in the soil, and affects them in various ways, which depend entirely upon the kind of material to be acted upon. When applied to soil composed of disintegrated mica-rock, it will release potash in considerable amounts. The old potash compound is broken up and a new one formed; the old was comparatively insoluble as plant-food; the new one is valuable and readily appreciated by the plants.

The mechanical effect of lime is probably very slight indeed, and scarcely worthy of consideration; it is of course most evident upon stiff and clay soils, and least to be depended upon upon loamy and open soils. One hundred bushels of slaked lime applied to a clay soil will add to the entire soil a ton of lime, but when we remember that at least for sometime, it is mixed with only a small part of the surface soil, the mechanical action may be greater than we would suppose.

The actual material results of the application of lime are also very slight; all soils, no matter how poor they may be, contain a certain amount of lime, and always contain a sufficient amount of lime for many crops in question. From eight to fifteen parts of lime per acre will supply the actual needs of the plants.

During the past twenty-five or thirty years the rule governing the use of lime in southeastern Pennsylvania has undergone many changes. Thirty years ago nearly every farmer in the country, each farm had its bluekin and quarry, and from fifty to sixty bushels per acre was applied to the soil every year. Lime was applied to the soil for seven years' rotation. It was found that the effect so favorable formerly had passed away, it became evident that the application did not pay. The result of this has been that the use of lime has been almost entirely abandoned and farmers have resorted to the use of commercial fertilizers instead.

The inference is that the continued application of lime to the soil, has removed from the soil those elements upon which lime acts and that its effect is to add to something upon which the lime acts, and that to produce the expected results.

Insomuch as lime acts somewhat in the nature of a stimulant by enabling the plants to absorb an increased crop from its own material, the addition of lime to the soil is to be regarded as a good thing.

For the past eight years I have been entirely satisfied with C. Smith, one of the leading dealers in lime, and have used him for several months. I do not know who uses him, and say it is the best lime I have ever seen, and that this is due to the fact that he uses only the best lime, and to my knowledge, he is the only dealer in lime who uses lime which is good for the plants.

Mr. J. M. MURKIN, a

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This book has been sent to Dr. Koenig, of Gettysburg, and to Dr. Smith and is now ready and will be directed to him.

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CATARRH.

Is a most loathsome, painful and protracted malady. It is a blood disease, usually serofusous origin, and for which no local treatment is possible.

Before health is restored, the patient must be entirely cured from the system, and to do this

the disease must be treated through the body.

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